# 6G11

# Beam Power Tube—Sharp-Cutoff Pentode

DUODECAR TYPE

## GENERAL DATA

**Electrical:**

| | | |
|---|---|---|
| Heater Characteristics and Ratings: | | |
| Voltage (AC or DC) | 6.3 ±0.6 | volts |
| Current at heater volts = 6.3 | 1.200 | amp |
| Peak heater-cathode voltage (Each unit): | | |
| Heater negative with respect to cathode | 200 max. | volts |
| Heater positive with respect to cathode | 200[a] max. | volts |
| Direct Interelectrode Capacitances (Approx.):[b] | | |
| *Beam Power Unit:* | | |
| Grid No.1 to plate | 0.26 | pf |
| Grid No.1 to cathode & grid No.3, grid No.2, internal shield, and heater | 12.0 | pf |
| Plate to cathode & grid No.3, grid No.2, internal shield, and heater | 12.0 | pf |
| *Pentode Unit:* | | |
| Grid No.1 to plate | 0.034 | pf |
| Grid No.3 to plate | 2.8 | pf |
| Grid No.1 to cathode, grid No.2, grid No.3, internal shield, and heater | 6.5 | pf |
| Grid No.3 to cathode, grid No.1, grid No.2, plate, internal shield, and heater | 7.5 | pf |
| Grid No.1 to grid No.3 | 0.24 | pf |
| Plate of beam power unit to plate of pentode unit | 0.12 | pf |

**Characteristics, Class $A_1$ Amplifier (Pentode Unit):**

| | | |
|---|---|---|
| Plate Supply Voltage | 150 | volts |
| Grid-No.3 Supply Voltage | *Connected to cathode at socket* | |
| Grid-No.2 Supply Voltage | 100 | volts |
| Cathode Resistor | 560 | ohms |
| Plate Resistance (Approx.) | 0.15 | megohm |
| Transconductance, Grid No.1 to Plate | 1000 | μmhos |
| Transconductance, Grid No.3 to Plate | 400 | μmhos |
| Plate Current | 1.3 | ma |
| Grid-No.2 Current | 2 | ma |
| Grid-No.1 Voltage (Approx.) for plate μa = 10 | -4.5 | volts |
| Grid-No.3 Voltage (Approx.) for plate μa = 10 | -4.5 | volts |

# 6G11

**Mechanical:**

| | |
|---|---|
| Operating Position | Any |
| Type of Cathodes | Coated Unipotential |
| Maximum Overall Length | 2.375" |
| Seated Length | 1.750" to 2.000" |
| Diameter | 1.062" to 1.188" |
| Bulb | T9 |
| Base | Small-Button Duodecar 12-Pin (JEDEC No.E12-70) |
| Basing Designation for BOTTOM VIEW | 12BU |

Pin 1 - Heater
Pin 2 - Pentode Cathode
Pin 3 - Pentode Grid No.1
Pin 4 - Pentode Grid No.3
Pin 5 - Internal Shield
Pin 6 - Pentode Plate
Pin 7 - Pentode Grid No.2
Pin 8 - Beam Power Grid No.1
Pin 9 - Beam Power Cathode, Beam Power Plate
Pin 10 - Beam Power Grid No.2
Pin 11 - Beam Power Plate
Pin 12 - Heater

## PENTODE UNIT — FM SOUND DETECTOR

**Maximum Ratings,** *Design-Maximum Values:*

| | | |
|---|---|---|
| PLATE VOLTAGE | 330 max. | volts |
| GRID-No.3 (SUPPRESSOR-GRID) VOLTAGE | 28 max. | volts |
| GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE | 330 max. | volts |
| GRID-No.2 VOLTAGE | See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section | |
| GRID-No.1 (CONTROL-GRID) VOLTAGE: | | |
| Positive-bias value | 0 max. | volts |
| PLATE DISSIPATION | 1.7 max. | watts |
| GRID-No.2 INPUT: | | |
| For grid-No.2 voltages up to 165 volts | 1.1 max. | watts |
| For grid-No.2 voltages between 165 and 330 volts | See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section | |

## BEAM POWER UNIT — AMPLIFIER — Class $A_1$

**Maximum Ratings,** *Design-Maximum Values:*

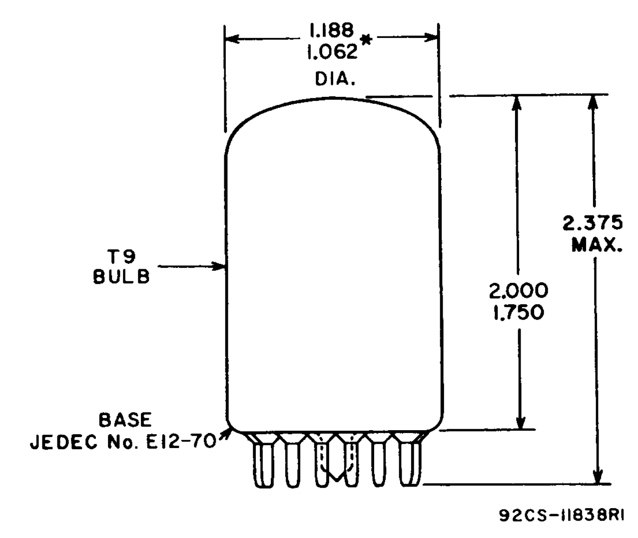
| | | |
|---|---|---|
| PLATE VOLTAGE | 150 max. | volts |
| GRID-No.2 (SCREEN-GRID) VOLTAGE | 135 max. | volts |
| AVERAGE CATHODE CURRENT | 65 max. | ma |
| PLATE DISSIPATION | 6.5 max. | watts |
| GRID-No.2 INPUT | 1.8 max. | watts |

**Typical Operation and Characteristics:**

| | | |
|---|---|---|
| Plate Voltage | 120 | volts |
| Grid-No.2 Voltage | 110 | volts |
| Grid-No.1 (Control-Grid) Voltage | -8 | volts |
| Peak AF Grid-No.1 Voltage | 8 | volts |

| | | |
|---|---|---|
| Zero-Signal Plate Current | 49 | ma |
| Max.-Signal Plate Current | 50 | ma |
| Zero-Signal Grid-No.2 Current | 4 | ma |
| Max.-Signal Grid-No.2 Current | 8.5 | ma |
| Plate Resistance (Approx.) | 10000 | ohms |
| Transconductance | 7500 | μmhos |
| Load Resistance | 2500 | ohms |
| Total Harmonic Distortion | 10 | per cent |
| Max.-Signal Power Output | 2.3 | watts |

[a] The dc component must not exceed 100 volts.
[b] Without external shield.




DIMENSIONS IN INCHES

* APPLIES TO MINIMUM DIAMETER EXCEPT IN AREA OF SEAL.